

Title (en)

NANOWIRE ARRAY, OPTOELECTRONIC DEVICE, AND MANUFACTURING METHOD THEREFOR

Title (de)

NANODRAHTANORDNUNG, OPTOELEKTRONISCHE VORRICHTUNG UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

RÉSEAU DE NANOFILS, DISPOSITIF OPTOÉLECTRONIQUE ET SON PROCÉDÉ DE FABRICATION

Publication

EP 3782955 A4 20210901 (EN)

Application

EP 19906921 A 20190111

Priority

- CN 201811648671 A 20181230
- CN 2019071260 W 20190111

Abstract (en)

[origin: EP3782955A1] Provided is a nanowire array. Nanowires in the nanowire array closely adhere to each other and are in contact with each other through a side wall to form a three-dimensional dense layered structure, wherein the nanowires are of an InGa_N-based material. Provided is an optoelectronic device having the nanowire array. The nanowire array is epitaxially grown on a surface of a substrate (12). Further provided is a method for manufacturing the nanowire array and the optoelectronic device.

IPC 8 full level

B82Y 10/00 (2011.01); **B81C 1/00** (2006.01); **H01L 29/06** (2006.01); **H01L 29/20** (2006.01); **H01L 33/18** (2010.01)

CPC (source: EP US)

B81C 1/00031 (2013.01 - EP); **H01L 21/02381** (2013.01 - EP US); **H01L 21/02433** (2013.01 - EP); **H01L 21/0254** (2013.01 - EP US); **H01L 21/02595** (2013.01 - EP); **H01L 21/02603** (2013.01 - EP US); **H01L 21/02631** (2013.01 - EP); **H01L 29/0676** (2013.01 - US); **H01L 29/2003** (2013.01 - US); **H01L 33/18** (2013.01 - EP); **B81B 2207/056** (2013.01 - EP); **B82Y 10/00** (2013.01 - EP); **B82Y 20/00** (2013.01 - EP); **B82Y 40/00** (2013.01 - EP US); **H01L 21/02378** (2013.01 - US); **H01L 21/02389** (2013.01 - US); **H01L 21/02395** (2013.01 - US); **H01L 21/0242** (2013.01 - US); **H01L 29/0676** (2013.01 - EP); **H01L 29/2003** (2013.01 - EP); **H01L 33/08** (2013.01 - EP)

Citation (search report)

[A] MOHAMMED ZEGHOUANE ET AL: "Compositional control of homogeneous InGa_N nanowires with the In content up to 90%", NANOTECHNOLOGY, INSTITUTE OF PHYSICS PUBLISHING, GB, vol. 30, no. 4, 20 November 2018 (2018-11-20), pages 44001, XP020333601, ISSN: 0957-4484, [retrieved on 20181120], DOI: 10.1088/1361-6528/AAEC39

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3782955 A1 20210224; **EP 3782955 A4 20210901**; **EP 3782955 B1 20240605**; CN 109795982 A 20190524; US 2021336003 A1 20211028; WO 2020140303 A1 20200709

DOCDB simple family (application)

EP 19906921 A 20190111; CN 201811648671 A 20181230; CN 2019071260 W 20190111; US 201917254107 A 20190111